Application No.: 10/811,899

Amendments to the Specification:

Please amend paragraph [019] beginning on page 4 of the specification as follows:

[019] In an embodiment of the present invention, the structure of the pure water channel having the polymeric material is such that one end of the polymer chain is connected to the surface of the pure water channel [[(10)]] 11, as shown in Figure 1. Such polymer chains can form an entanglement (12) when the environmental temperature is low or when the flow of water ceases. Within the polymer entanglements, there are water molecules that undergo binding (bound water) due to the interaction with the polymer chains. Water classified as "bound water" does not readily freeze, at or below 0°C, due to polymer-water interactions. In addition, due to the action of polymers (as well as other components) in lowering the freezing point, water contained within the polymer entanglement does not readily freeze, even at or below 0°C. Consequently, even when a fuel cell is used in an environment below 0°C, it is not necessary to discharge the pure water outside of the fuel cell beforehand to prevent freezing, or to use a reservoir tank to discharge the pure water. Advantageously, when the fuel cell is re-started, it can begin to operate immediately, without re-supplying water to the channel after the cell is stopped.

Please amend paragraph [020] beginning on page 4 of the specification as follows:

[020] Connecting or attaching polymer chains to a pure water channel surface can be carried out by the general method of surface treating the contemplated surface to which the polymeric material is to be attached followed by polymerization of monomers or attachment of already formed materials. For instance, polymer chains are [[be]] connected to the surface of a pure water channel by applying a plasma treatment to the channel surface and connecting the

polymer chain at the active site, or by forming a polymer membrane layer on the channel surface beforehand and causing a portion of the membrane layer to react with the polymer chain.